Delahey Industries, Inc.

13000 W. Bluemound Rd.
Elm Grove, WI 53122
(262) 821-9296
Fax: (262) 821-1709

Asbestos Response Specialists • Inspections • EPA Certified

December 23, 2011

Mr. Karl Rohrbach, P.E.
City of Milwaukee Water Works
Frank P. Zeidler Municipal Building
841 N. Broadway, Room 409
Milwaukee, WI 53202

Re: North 25th Street Bridge – client task specific inspection (water line)
Delahey Industries, Inc. Project #11118

Dear Mr. Rohrbach:

Per your request, a pre-demolition NESHAP protocol inspection was performed on December 15, 2011 at the North 25th Street Bridge in Milwaukee, Wisconsin. The purpose of this inspection was to determine the presence of asbestos within suspect insulation materials prior to the replacement of a 12" diameter water main. This inspection was performed by Certified Asbestos Inspector John P. Hey (Inspector ID #AII-2512).

INSPECTION PROTOCOL (NESHAP)

All accessible areas of the water main were inspected to identify suspected asbestos containing building materials (ACBM). All samples were collected in a random matter in general accordance with the Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) guidelines (EPA 40 CFR 61 Subpart M) and the Milwaukee Department of Neighborhood Services guidelines.

Inspections included visual observation, bulk sampling and laboratory analysis of interior/exterior suspect ACBM. A minimum of three (3) bulk samples of each homogeneous (similar in color, texture and application) material were collected. Three (3) independent "none detected" analysis results of homogeneous samples was used to demonstrate the materials did not contain greater than 1% asbestos (OSHA 29 CFR 1910.12). Asbestos containing materials are defined as products containing greater than (>) 1% of asbestos as analyzed by polarized light microscopy (PLM). In addition, ACBM are designated as:

1. **Friable asbestos** - material which can be crumbled, pulverized or reduced to powder by hand pressure.
2. **Category I nonfriable** - includes resilient floor coverings, asphalt roofing products, gaskets and packings.

3. **Category II nonfriable** - any nonfriable ACM that is not in Category I (i.e. transite siding material).

This inspection did not include an assessment of hazard potential or a management or abatement plan. Samples of suspected ACBM were collected by trained and certified personnel, using a core sampling device or equivalent method, individually packaged and labeled with the sample number. The sample information was then recorded on an Asbestos Survey Sample Assessment Form and listed on a Chain of Custody Form for delivery to the laboratory. Prior to sampling, the area was misted with an amended water solution to minimize fiber release during the sample process. As applicable, an encapsulant was used to repair any areas where samples were removed.

Suspect material samples were submitted for analysis to AmeriSci Richmond, a laboratory that successfully participates in the AIHA Proficiency Analytical Testing (PAT) program. The type and quantity (percentage) of asbestos are identified by polarized light microscopy (PLM) following preparation and identification protocols recommended by the National Institute for Occupational Safety and Health (NIOSH) and the National Voluntary Laboratory Accreditation Program (NVLAP). In order to keep sample analysis costs to a minimum, testing of the minimum three (3) samples of each homogeneous materials collected was be performed until a sample "positive" was achieved. (Additional plaster samples are collected based on plaster quantity to insure sampling compliance). Additional samples were not analyzed once a positive result was determined.

INSPECTION FINDINGS

No Asbestos (or less than 1%) was detected in the following samples:
(Please see sample log for detailed sample locations.)

- black paper under metal cover
- yellow/brown insulation
- black/brown exposed tar paper (top layer)
- metal flange core
- yellow insulation under seam
- yellow/silver insulation under metal cover
- gray fibrous insulation (packing)
- black/yellow paper (2nd layer)
- black/tan paper

Asbestos Containing Materials

Material	Location	Approx. Quantity
Black concrete seam tar	23'-25' north of south concrete wall	150 linear feet
Black seam tar on concrete	South end on concrete	1 square foot
Black seam tar on concrete	North end (assumed; inaccessible)	1 square foot

Response Recommendations/Inspection Notes:

1. This inspection did not include an assessment of hazard potential or a management or abatement plan. Wall/ceiling voids, building cavities and mechanical equipment may contain undetected ACM. These and other inaccessible areas should be under the scrutiny of a competent person, as applicable, during renovation/demolition to verify that no previously enclosed ACBM is present. At the time of this inspection (December 15, 2011), only accessible areas of the water main was inspected (up to 25' north of the south concrete support wall).

2. **Inspection limitations:** Access to the water pipe insulation was limited to 25 linear feet from the south concrete support wall. It should be assumed that the pipe insulation seam tar on black asphalt paper was used on the entire pipe including the material under the metal clad covered section on the south end. The insulation under the black rolled paper with asbestos containing tar consisted of fiberglass in the sampled areas. No asbestos was detected on the black paper.

3. Materials proven or assumed to contain asbestos must be handled by persons trained and certified to respond to asbestos containing materials. This insulation tar cannot be separated from other non-asbestos pipe insulation. All insulation should be handled as an asbestos containing material. The black tar on pipe and concrete wall seam asphalt was also positive for asbestos.

4. The asbestos containing material may be removed using the two man negative pressure glove bag removal method. Obviously, sections of the freeway must be shut down and isolated during this abatement. Typically, the City of Milwaukee Department of Neighborhood Services and Wisconsin Department of Natural Resources request area and personal and area air sampling to be collected during abatement. Clearance air sampling would not apply to this type of project as glove bag method is its own containment.

Attached are the sample log field sheets and the laboratory analytical documents, which indicate the results of the analysis. If you have any questions concerning the results, feel free to call me at (262) 821-9296. Thank you.

Regards,
Delahey Industries, Inc.

John Hey

cc: Mr. Tony Fahres

Milwaukee Water Works – North 25th Street Bridge

Delahey Industries Project #11118
Sampled on December 15, 2011
John P. Hey Inspector I.D. #2512

Room #/Location	Sample I.D. #	Material Description	Results
Water pipe under bridge	BD-01A	Black paper under metal cover (top layer)	Negative
Water pipe under bridge	BD-01B	Black paper under metal cover (top layer)	Negative
Water pipe under bridge	BD-01C	Black paper under metal cover (top layer)	Negative
Water pipe under bridge	BD-02A	Yellow/silver insulation under metal cover (core)	Negative
Water pipe under bridge	BD-02B	Yellow/silver insulation under metal cover (core)	Negative
Water pipe under bridge	BD-02C	Yellow/silver insulation under metal cover (core)	Negative
Water pipe under bridge	BD-03A	Yellow/brown insulation – bottom layer metal	Negative
Water pipe under bridge	BD-03B	Yellow/brown insulation – bottom layer metal	Negative
Water pipe under bridge	BD-03C	Yellow/brown insulation – bottom layer metal	Negative
South concrete edge	BD-04A	Gray fibrous insulation (packing)	Negative
South concrete edge	BD-04B	Gray fibrous insulation (packing)	Negative
South concrete edge	BD-04C	Gray fibrous insulation (packing)	Negative
Concrete seal south end	BD-05A	Black concrete seam tar	**POSITIVE**
Concrete seal south end	BD-05B	Black concrete seam tar	Not analyzed
Concrete seal south end	BD-05C	Black concrete seam tar	Not analyzed
16’ from south end	BD-06A	Black/brown exposed tar paper (top layer)	Negative
16’ from south end	BD-06B	Black/brown exposed tar paper (top layer)	Negative
16’ from south end	BD-06C	Black/brown exposed tar paper (top layer)	Negative
16’ from south end	BD-07A	Black/yellow paper (2nd layer) (core)	Negative
16’ from south end	BD-07B	Black/yellow paper (2nd layer) (core)	Negative
16’ from south end	BD-07C	Black/yellow paper (2nd layer) (core)	Negative
Flange metal jacket	BD-08A	Metal flange core	Negative
Flange metal jacket	BD-08B	Metal flange core	Negative
Flange metal jacket	BD-08C	Metal flange core	Negative
23’ from south end (top layer)	BD-09A	Black/tan paper	Negative
23’ from south end (top layer)	BD-09B	Black/tan paper	Negative
23’ from south end (top layer)	BD-09C	Black/tan paper	Negative
23’ from south end	BD-10A	Black seam tar on black asphalt paper	Negative
23’ from south end	BD-10B	Black seam tar on black asphalt paper	**POSITIVE**
23’ from south end	BD-10C	Black seam tar on black asphalt paper	Not analyzed
23’ from south end	BD-11A	Yellow insulation under seam	Negative
23’ from south end	BD-11B	Yellow insulation under seam	Negative
23’ from south end	BD-11C	Yellow insulation under seam	Negative

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Delahey Industries, Inc.
Attn: John Hey
13000 W. Bluemound Road

Elm Grove, WI 53122-2650

Date Received 12/16/11 **AmeriSci Job #** 111121600
Date Examined 12/20/11 **P.O. #**
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RE: 11118; Milwaukee Water Works; 25th Street Bridge, H2O Piping

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
BD-01A 1	111121600-01 **Location:** Black Paper - Under Metal Cover	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 90 %, Non-fibrous 10 %			
BD-01B 1	111121600-02 **Location:** Black Paper - Under Metal Cover	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 95 %, Non-fibrous 5 %			
BD-01C 1	111121600-03 **Location:** Black Paper - Under Metal Cover	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 95 %, Non-fibrous 5 %			
BD-02A 2	111121600-04 **Location:** Yellow/Silver Insul-Under Metal Cover	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow/Silver, Heterogeneous, Fibrous, Insulation **Asbestos Types:** **Other Material:** Fibrous glass 90 %, Non-fibrous 10 %			
BD-02B 2	111121600-05 **Location:** Yellow/Silver Insul-Under Metal Cover	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow/Silver, Heterogeneous, Fibrous, Insulation **Asbestos Types:** **Other Material:** Fibrous glass 90 %, Non-fibrous 10 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

11118; Milwaukee Water Works; 25th Street Bridge, H2O
Piping

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
BD-02C 2	111121600-06 **Location:** Yellow/Silver Insul-Under Metal Cover	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow/Silver, Heterogeneous, Fibrous, Insulation **Asbestos Types:** **Other Material:** Fibrous glass 90 %, Non-fibrous 10 %			
BD-03A 3	111121600-07 **Location:** Yellow Brown Insulation	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow, Heterogeneous, Fibrous, Insulation **Asbestos Types:** **Other Material:** Fibrous glass 95 %, Non-fibrous 5 %			
BD-03B 3	111121600-08 **Location:** Yellow Brown Insulation	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow, Heterogeneous, Fibrous, Insulation **Asbestos Types:** **Other Material:** Fibrous glass 95 %, Non-fibrous 5 %			
BD-03C 3	111121600-09 **Location:** Yellow Brown Insulation	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow, Heterogeneous, Fibrous, Insulation **Asbestos Types:** **Other Material:** Fibrous glass 95 %, Non-fibrous 5 %			
BD-04A 4	111121600-10 **Location:** Grey Fiberous Insulation	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Gray, Heterogeneous, Fibrous, Insulation **Asbestos Types:** **Other Material:** Cellulose 5 %, Fibrous glass 10 %, Synthetic fibers 80 %, Non-fibrous 5 %			
BD-04B 4	111121600-11 **Location:** Grey Fiberous Insulation	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Gray, Heterogeneous, Fibrous, Insulation **Asbestos Types:** **Other Material:** Cellulose 5 %, Fibrous glass 10 %, Synthetic fibers 80 %, Non-fibrous 5 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

11118; Milwaukee Water Works; 25th Street Bridge, H2O
Piping

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
BD-04C 4	111121600-12 **Location:** Grey Fiberous Insulation	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Gray, Heterogeneous, Fibrous, Insulation **Asbestos Types:** **Other Material:** Cellulose 5 %, Fibrous glass 10 %, Synthetic fibers 80 %, Non-fibrous 5 %			
BD-05A 5	111121600-13 **Location:** Black Concrete Seam Tar	***Yes***	5 % (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Black, Heterogeneous, Non-Fibrous, Tar **Asbestos Types:** Chrysotile 5.0 % **Other Material:** Non-fibrous 95 %			
BD-05B 5	111121600-14 **Location:** Black Concrete Seam Tar		NA/PS
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:**			
BD-05C 5	111121600-15 **Location:** Black Concrete Seam Tar		NA/PS
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:**			
BD-06A 6	111121600-16 **Location:** Black Brown Exposed Tar Paper - Top Layer	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Black, Heterogeneous, Fibrous, Tar Paper **Asbestos Types:** **Other Material:** Cellulose 95 %, Non-fibrous 5 %			
BD-06B 6	111121600-17 **Location:** Black Brown Exposed Tar Paper - Top Layer	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Black, Heterogeneous, Fibrous, Tar Paper **Asbestos Types:** **Other Material:** Cellulose 95 %, Non-fibrous 5 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

11118; Milwaukee Water Works; 25th Street Bridge, H2O
Piping

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
BD-06C 6	111121600-18 **Location:** Black Brown Exposed Tar Paper - Top Layer	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Black, Heterogeneous, Fibrous, Tar Paper **Asbestos Types:** **Other Material:** Cellulose 95 %, Non-fibrous 5 %			
BD-07A 7	111121600-19 **Location:** Black Yellow Paper 2nd Layer	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow/Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 85 %, Non-fibrous 15 %			
BD-07B 7	111121600-20 **Location:** Black Yellow Paper 2nd Layer	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow/Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 85 %, Non-fibrous 15 %			
BD-07C 7	111121600-21 **Location:** Black Yellow Paper 2nd Layer	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow/Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 85 %, Non-fibrous 15 %			
BD-08A 8	111121600-22 **Location:** Metal Flange Core	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 95 %, Non-fibrous 5 %			
BD-08B 8	111121600-23 **Location:** Metal Flange Core	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 95 %, Non-fibrous 5 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

11118; Milwaukee Water Works; 25th Street Bridge, H2O
Piping

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
BD-08C 8	111121600-24 **Location:** Metal Flange Core	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 95 %, Non-fibrous 5 %			
BD-09A 9	111121600-25 **Location:** Black/Tan Paper	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Black/Yellow, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 55 %, Fibrous glass 35 %, Non-fibrous 10 %			
BD-09B 9	111121600-26 **Location:** Black/Tan Paper	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow/Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 55 %, Fibrous glass 35 %, Non-fibrous 10 %			
BD-09C 9	111121600-27 **Location:** Black/Tan Paper	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow/Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 55 %, Fibrous glass 35 %, Non-fibrous 10 %			
BD-10A 10	111121600-28 **Location:** Black Seam Tar	***No***	NAD (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Black, Heterogeneous, Fibrous, Tar **Asbestos Types:** **Other Material:** Cellulose 90 %, Non-fibrous 10 %			
BD-10B 10	111121600-29 **Location:** Black Seam Tar	***Yes***	4 % (by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 4.0 % **Other Material:** Non-fibrous 96 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

11118; Milwaukee Water Works; 25th Street Bridge, H2O
Piping

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
BD-10C	111121600-30		NA/PS
10 **Location:** Black Seam Tar			
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:**			
BD-11A	111121600-31	***No***	NAD
11 **Location:** Yellow Insulation Under Seam			(by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow, Heterogeneous, Fibrous, Insulation **Asbestos Types:** **Other Material:** Fibrous glass 95 %, Non-fibrous 5 %			
BD-11B	111121600-32	***No***	NAD
11 **Location:** Yellow Insulation Under Seam			(by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow, Heterogeneous, Fibrous, Insulation **Asbestos Types:** **Other Material:** Fibrous glass 95 %, Non-fibrous 5 %			
BD-11C	111121600-33	***No***	NAD
11 **Location:** Yellow Insulation Under Seam			(by CVES) by J. Samuel Baird on 12/20/11
Analyst Description: Yellow, Heterogeneous, Fibrous, Insulation **Asbestos Types:** **Other Material:** Fibrous glass 95 %, Non-fibrous 5 %			

Reporting Notes:
Analyzed by: J. Samuel Baird _____ Date 12/20/11

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples (198.6 for NOB samples)(NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By:_____